

Vol. 147 • 1973/74

Zeitschrift für

# Zellforschung und mikroskopische Anatomie

---

## Cell and Tissue Research

Editors

W. Bargmann, Kiel

D. S. Farner, Seattle

F. Knowles, London

A. Oksche, Giessen

B. Scharrer, New York



Springer-Verlag

Berlin • Heidelberg • New York

Begründet 1924 unter dem Titel: Zeitschrift für Zellen- und Gewebelehre. Redigiert von R. Goldschmidt und W. von Möllendorff. Bd. 2—28 (1938). Zeitschrift für Zellforschung und mikroskopische Anatomie. (Bd. 1—20), 1934 als: Zeitschrift für wissenschaftliche Biologie (Abteilung B) herausgegeben von R. Goldschmidt, W. von Möllendorff, H. Bauer, J. Seiler. Bd. 29—33 (1944) Zeitschrift für Zellforschung und mikroskopische Anatomie Abteilung A. Allgemeine Zellforschung und mikroskopische Anatomie. Herausgegeben und redigiert von W. von Möllendorff und J. Seiler, Berlin, Springer. Bd. 34—35 (1948—1950) Springer, Wien, ab Bd. 36 Springer, Berlin, ab Bd. 34 ohne den Untertitel Abteilung A, Allgemeine Zellforschung usw.

Ab Bd. 2 (1925) mit dem Untertitel: Fortsetzung des SCHULTZE-WALDEYER-HERTWIGschen Archivs für mikroskopische Anatomie. [Dieses wurde begründet 1864. Bd. 1—13 (1876) herausgegeben von Max Schultze; Bd. 13, Heft 4, bis Bd. 35 (1890) herausgegeben von v. La Valette St. George, W. Waldeyer; Bd. 36—43 (1894) herausgegeben von O. Hertwig, v. La Valette St. George, W. Waldeyer. Ab Bd. 44 als Archiv f. mikroskopische Anatomie und Entwicklungsgeschichte, ab Bd. 77—95 (1910—1922) in 2 Abteilungen. Bd. 1—95, Bonn, Cohen. Ab Bd. 96 Berlin, Springer. Fortsetzung Bd. 98—104 (1923—1925) Archiv für mikroskopische Anatomie und Entwicklungsmechanik. Herausgegeben von W. Roux, H. Braus, H. Spemann.]

The journal was founded in 1924 as the Zeitschrift für Zellen- und Gewebelehre. Vols 2—28 (1938) edited by R. Goldschmidt and W. von Möllendorff. Zeitschrift für Zellforschung und mikroskopische Anatomie (Vols 1—20) (1934) as: Zeitschrift für wissenschaftliche Biologie (Abteilung B) edited by R. Goldschmidt, W. von Möllendorff, H. Bauer, J. Seiler. Vols 29—33 (1944) as: Zeitschrift für Zellforschung und mikroskopische Anatomie, Abteilung A, Allgemeine Zellforschung und mikroskopische Anatomie, edited by W. von Möllendorff and J. Seiler, from Vol. 34 without the subtitle, Abteilung A, Allgemeine Zellforschung etc. Published: Vols 34—35 (1948—1950) Springer, Wien, from Vol. 36, Springer, Berlin.

From Vol. 2 (1925) with the subtitle: continuation of the SCHULTZE-WALDEYER-HERTWIG Archiv für mikroskopische Anatomie. [This journal was founded in 1864: Vols 1—13 (1876) edited by Max Schultze; Vol. 13, No. 4, to Vol. 35 (1890) edited by v. La Valette St. George, W. Waldeyer; Vols 36—43 (1894) edited by O. Hertwig, v. La Valette St. George, W. Waldeyer. From Vol. 44 as Archiv für mikroskopische Anatomie und Entwicklungsgeschichte, from Vol. 77 to Vol. 95 (1910—1922) in 2 sections. Published: Vols 1—95, Bonn, Cohen, from Vol. 96, Berlin, Springer. Continued Vols 98—104 (1923—1925) as Archiv für mikroskopische Anatomie und Entwicklungsmechanik, edited by W. Roux, H. Braus, H. Spemann.]

\*

Alle Rechte, einschließlich das der Übersetzung in fremde Sprachen und das der fotomechanischen Wiedergabe oder einer sonstigen Vervielfältigung, auch in Mikroform, vorbehalten. Jedoch wird gewerblichen Unternehmen für den innerbetrieblichen Gebrauch nach Maßgabe des zwischen dem Börsenverein des Deutschen Buchhandels e.V. und dem Bundesverband der Deutschen Industrie abgeschlossenen Rahmenabkommens die Anfertigung einer fotomechanischen Vervielfältigung gestattet. Wenn für diese Zeitschrift kein Pauschalabkommen mit dem Verlag vereinbart worden ist, ist eine Wertmarke im Betrage von DM 0,40 pro Seite zu verwenden. Der Verlag läßt diese Beträge den Autorenverbänden zufließen.

Die Wiedergabe von Gebrauchsnamen, Handelsnamen, Warenbezeichnungen usw. in dieser Zeitschrift berechtigt auch ohne besondere Kennzeichnung nicht zu der Annahme, daß solche Namen im Sinne der Warenzeichen- und Markenschutz-Gesetzgebung als frei zu betrachten wären und daher von jedermann benutzt werden dürften

The exclusive copyright for all languages and countries, including the right for photomechanical and any other reproductions, also in microform, is transferred to the publisher.

The use of registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Springer-Verlag, Berlin · Heidelberg · New York

Printers: Universitätsdruckerei H. Stürtz AG, Würzburg

Printed in Germany — © by Springer-Verlag Berlin · Heidelberg 1973/74



## Inhalt / Contents

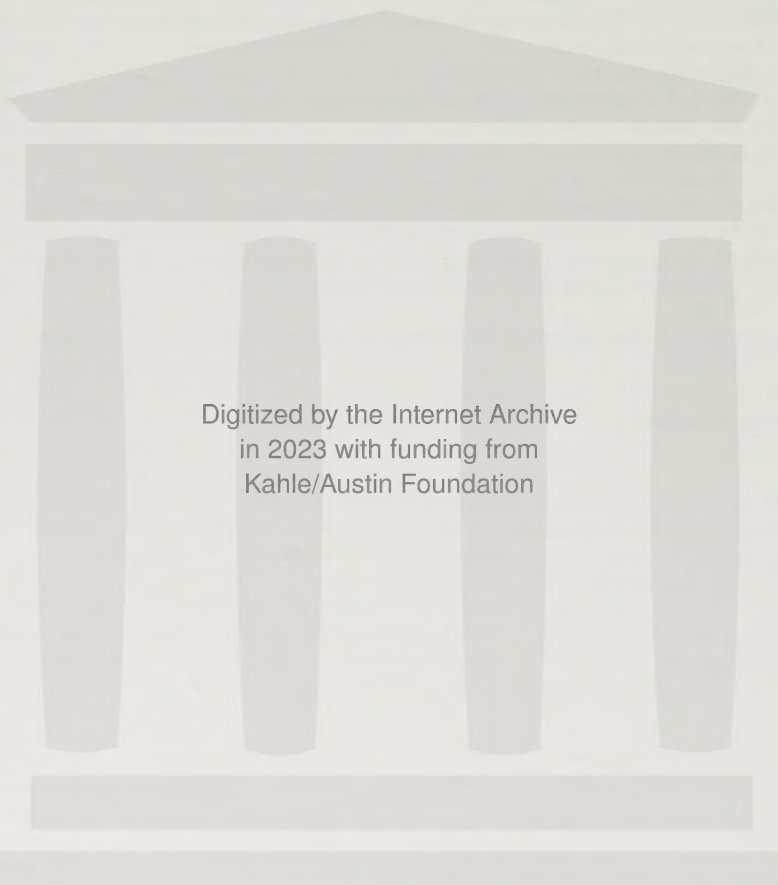
Adiyodi, K. G., s. Adiyodi, R. G. . . . .	433
Adiyodi, R. G., Adiyodi, K. G.: Ultrastructure of the Utriculi majores in the Mushroom-shaped Male Accessory Gland of <i>Periplaneta americana</i> (L.) . . . . .	433
Aikawa, M., Sterling, Ch.: High Voltage Electron Microscopy on Microgametogenesis of <i>Haemoproteus columbae</i> . . . . .	353
Ball, E., Young, D.: Structure and Development of the Auditory System in the Prothoracic Leg of the Cricket <i>Teleogryllus commodus</i> (Walker). II. Postembryonic Development . . . . .	313
Ball, E., s. Young, D. . . . .	293, 325
Baumgarten, H. G., Lachenmayer, L.: Indoleamine-Containing Nerve Terminals in the Rat Median Eminence . . . . .	285
Benjamin, M.: Ultrastructural Studies on the Coronet Cells of the Sacculus vasculosus of the Freshwater Stickleback, <i>Gasterosteus aculeatus</i> form <i>leirurus</i> . . . . .	551
Bereiter-Hahn, J., s. Schliwa, M. . . . .	107, 127
Bjerregaard, P., Bro-Rasmussen, F., Reumert, T.: Ultrastructural Development of Fetal Rabbit Testis . . . . .	401
Böck, P.: Fine Structure of Langerhans Cells in the Stratified Epithelia of the Esophagus and Stomach of Mice . . . . .	237
Bonucci, E., Cuicchio, M., Dearden, L. C.: Investigations of Ageing in Costal and Tracheal Cartilage of Rats . . . . .	505
Bro-Rasmussen, F., s. Bjerregaard, P., <i>et al.</i> . . . .	401
Burnstock, G., s. Campbell, G. R., <i>et al.</i> . . . .	157
Calas, A., Hartwig, H.-G., Collin, J. P.: Noradrenergic Innervation of the Median Eminence. Microspectrofluorimetric and Pharmacological Study in the Duck, <i>Anas platyrhynchos</i> . . . . .	491
Campbell, G. R., Uehara, Y., Burnstock, G.: Lanthanum Nitrate in a Smooth Muscle Membrane System . . . . .	157
Campos-Ortega, J. A.: Autoradiographic Localization of $^3\text{H}$ - $\gamma$ -Aminobutyric Acid Uptake in the Lamina ganglionaris of <i>Musca</i> and <i>Drosophila</i> . . . . .	415
Collin, J. P., s. Calas, A., <i>et al.</i> . . . .	491
Colombara, D.: Action of Colchicine on the Chromosomes of the Ascidian <i>Botryllus schlosseri</i> Pallas . . . . .	249
Cuicchio, M., s. Bonucci, E., <i>et al.</i> . . . .	505
Danscher, G., s. Geneser-Jensen, F. A., <i>et al.</i> . . . .	441
Dearden, L. C., s. Bonucci, E., <i>et al.</i> . . . .	505
Duckett, J. G., s. Peel, M. C., <i>et al.</i> . . . .	59
Gardner, P. J., Shervey, P. D.: An Ultrastructural and Histochemical Study of Auto-immune Aspermatogenesis in the Rat Testis . . . . .	191
Gebbers, J.-O., Otto, H. F.: Electron Microscope Studies on the Intestine Using Ruthenium Red . . . . .	271
Geneser-Jensen, F. A., Haug, F.-M. Š., Danscher, G.: Distribution of Heavy Metals in the Hippocampal Region of the Guinea Pig. A Light Microscope Study with Timm's Sulfide Silver Method . . . . .	441
Greenwood, A. D., s. Peel, M. C., <i>et al.</i> . . . .	59
Haffen, K., s. Kedinger, M., <i>et al.</i> . . . .	169
Han, S. S., s. MacCallum, D. K. . . . .	479
Hanzlíková, V., Schiaffino, S.: Studies on the Effect of Denervation in Developing Muscle. III. Diversification of Myofibrillar Structure and Origin of the Heterogeneity of Muscle Fiber Types . . . . .	75

Hartwig, H.-G., s. Calas, A., <i>et al.</i> . . . . .	491
Haug, F.-M. Š., s. Geneser-Jensen, F.A., <i>et al.</i> . . . . .	441
Hugon, J.S., s. Kedinger, M., <i>et al.</i> . . . . .	169
Kadanoff, D., Seguchi, H., Villiger, W.: Ultrastructural Investigations of the Palisade-shaped Nerve Fiber Terminals of the Normal Hairs of Rat's Snout . . . . .	259
Kedinger, M., Haffen, K., Hugon, J.S.: Organ Culture of Adult Guinea-Pig Intestine. I. Ultrastructural Aspect after 24 and 48 Hours of Culture . . . . .	169
Kooten, H. van, s. Terlouw, M. . . . .	529
Korneliussen, H.: Ultrastructure of Motor Nerve Terminals on Different Types of Muscle Fibers in the Atlantic Hagfish ( <i>Myxine glutinosa</i> , L.). Occurrence of Round and Elongated Profiles of Synaptic Vesicles and Dense-core Vesicles . . . . .	87
Kretschmer, V., s. Snipes, R.L., <i>et al.</i> . . . . .	219
Lachenmayer, L., s. Baumgarten, H.G. . . . .	285
Lake, P.S., Swain, R., Ong, J.E.: The Ultrastructure of the Fenestra dorsalis of the Syncarid Crustaceans <i>Allanaspides helonomus</i> and <i>Allanaspides hickmani</i> . . . . .	335
Lucas, I.A.N., s. Peel, M.C., <i>et al.</i> . . . . .	59
MacCallum, D.K., Han, S.S.: An Electron Microscopic Autoradiographic Study of Proline Incorporation by Mouse Lingual Epithelium . . . . .	479
Mariscal, R.N.: Scanning Electron Microscopy of the Sensory Surface of the Tentacles of Sea Anemones and Corals . . . . .	149
Mayhew, T.M., Williams, M.A.: A Quantitative Morphological Analysis of Macrophage Stimulation. I. A Study of Subcellular Compartments and of the Cell Surface . . . . .	567
McLelland, J., s. Walsh, C. . . . .	209
Newell, P.F., Skelding, J.M.: Structure and Permeability of the Septate Junction in the Kidney Sac of <i>Helix pomatia</i> L. . . . .	31
Notenboom, C.D.: The Reaction of the Preoptic Nucleus of <i>Xenopus laevis</i> to Osmotic Stimulation. An Enzyme Cytochemical Investigation . . . . .	199
Ong, J.E., s. Lake, P.S., <i>et al.</i> . . . . .	335
Otto, H.F., s. Gebbers, J.-O. . . . .	271
Partanen, S., Rechardt, L.: Histochemically Demonstrable Monoamines in the Pituitary Gland and Median Eminence of the Female Rat during the Postnatal Development . . . . .	41
Peel, M.C., Lucas, I.A.N., Duckett, J.G., Greenwood, A.D.: Studies of Sporogenesis in the Rhodophyta. I. An Association of the Nuclei with Endoplasmic Reticulum in Post-Meiotic Tetraspore Mother Cells of <i>Corallina officinalis</i> L. . . . .	59
Pelletier, G., Puviani, R.: Permeability of Capillaries to Different Tracers and Uptake of Horseradish Peroxidase by the Secretory Cells in Rat Anterior Pituitary Gland . . . . .	361
Price, C.D., Ratcliffe, N.A.: A Reappraisal of Insect Haemocyte Classification by the Examination of Blood from Fifteen Insect Orders . . . . .	537
Puviani, R., s. Pelletier, G. . . . .	361
Ratcliffe, N.A., s. Price, C.D. . . . .	537
Rechardt, L., s. Partanen, S. . . . .	41
Redler, I., s. Zimny, M.L. . . . .	163
Reumert, T., s. Bjerregaard, P., <i>et al.</i> . . . . .	401
Ruiten, Th.M. van, Sprey, Th.E.: The Ultrastructure of the Developing Leg Disk of <i>Calliphora erythrocephala</i> . . . . .	373
Schiaffino, S., s. Hanzlíková, V. . . . .	75
Schliwa, M., Bereiter-Hahn, J.: Pigment Movements in Fish Melanophores: Morphological and Physiological Studies. II. Cell Shape and Microtubules . . . . .	107
Schliwa, M., Bereiter-Hahn, J.: Pigment Movements in Fish Melanophores: Morphological and Physiological Studies. III. The Effects of Colchicine and Vinblastine . . . . .	127
Schwarz, W.: The Surface Film on the Mesothelium of the Serous Membranes of the Rat (Short Communication) . . . . .	595
Seguchi, H., s. Kadanoff, D., <i>et al.</i> . . . . .	259
Shervey, P.D., s. Gardner, P.J. . . . .	191
Skelding, J.M.: The Fine Structure of the Kidney of <i>Achatina achatina</i> (L.) . . . . .	1



Skelding, J.M., s. Newell, P.F. . . . .	31
Skrzipek, H., s. Skrzipek, K.-H. . . . .	589
Skrzipek, K.-H., Skrzipek, H.: The Ninth Retinula Cell in the Ommatidium of the Worker Honey Bee ( <i>Apis mellifica</i> L.) . . . . .	589
Snipes, R.L., Wittekind, D., Kretschmer, V.: Altered Formation of Dye-induced Lyso- somes in Mouse Fibroblasts due to Growth in "Deficient" Media. Light and Electron Microscopic Observations . . . . .	219
Sprey, Th.E., s. Ruiten, Th.M. van . . . . .	373
Sterling, Ch., s. Aikawa, M. . . . .	353
Swain, R., s. Lake, P.S., <i>et al.</i> . . . .	335
Terlou, M., Kooten, H. van: Microspectrofluorometric Identification of Formaldehyde Induced Fluorescence in Hypothalamic Nuclei of <i>Xenopus laevis</i> Tadpoles . . . . .	529
Uehara, Y., s. Campbell, G.R., <i>et al.</i> . . . .	157
Villiger, W., s. Kadanoff, D., <i>et al.</i> . . . .	259
Walsh, C., McLelland, J.: Intraepithelial Axons in the Avian Trachea . . . . .	209
Webber, W.A.: The Parietal Layer of Bowman's Capsule in Experimental Hypertension . . . . .	183
Williams, M.A., s. Mayhew, T.M. . . . .	567
Wittekind, D., s. Snipes, R.L., <i>et al.</i> . . . .	219
Young, D., Ball, E.: Structure and Development of the Auditory System in the Protho- racic Leg of the Cricket <i>Teleogryllus commodus</i> (Walker). I. Adult Structure . . . . .	293
Young, D., Ball, E.: Structure and Development of the Tracheal Organ in the Mesotho- racic Leg of the Cricket <i>Teleogryllus commodus</i> (Walker) . . . . .	325
Young, D., s. Ball, E. . . . .	313
Zimny, M.L., Redler, I.: Morphological Variations within a Given Area of Articular Surface of Cartilage . . . . .	163

Indexed in Current Contents



Digitized by the Internet Archive  
in 2023 with funding from  
Kahle/Austin Foundation

## Notes on Preparation of Illustrations

---

*Selection of illustration material:* In order to obtain the best results in reproduction, to avoid delays during production and hence unnecessary costs, we ask authors to note the following points when selecting and preparing illustration copy.

### 1. Half-tones (photographs, photomicrographs, X-rays, instrument traces etc.)

- Send only good, well-contrasted glossy prints of the original negative; prints should be trimmed at right angles; send contact copies of X-rays — if these are not available, the actual X-ray films.
- Mark or trim off marginal portions which are not required (at right angles, please).
- State scale of reduction, if any, with due allowance for the format of the printed page (print area).
- Group figures into whole-page plates; see that they match in the proposed scale of reduction.
- With X-rays, in particular, mark the significant portions on the back of the copy, or on a cover sheet.
- Enter inscriptions, marker lines etc. neatly and in the appropriate size, either on the photograph itself or on a cover sheet.

### 2. Line drawings

- State final size of illustration, with due allowance for print area.
- The ideal is for drawings to be twice the final size and executed in indelible black ink.

Important points to note: thickness of lines, size of inscriptions, size of measuring points, adequate spacing of shaded and dotted areas.

Words should be in upper and lower case characters (not block capitals).

Example showing the effect of reduction  $\times \frac{1}{2}$ .

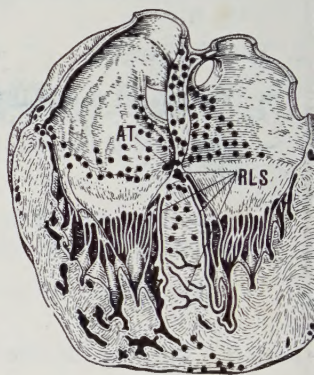
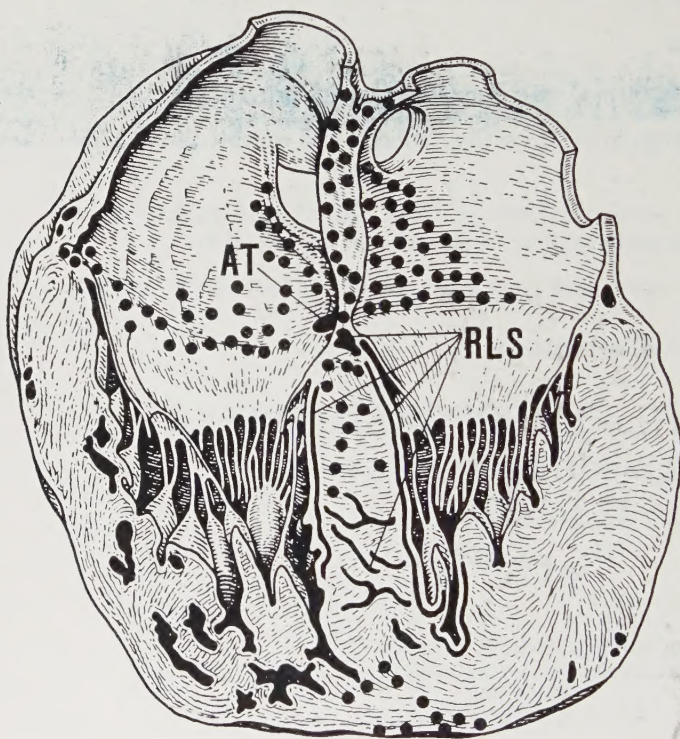
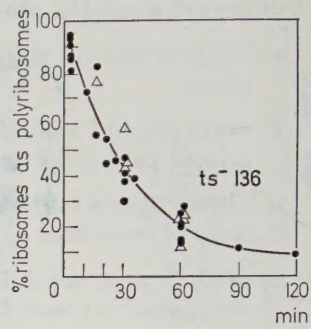
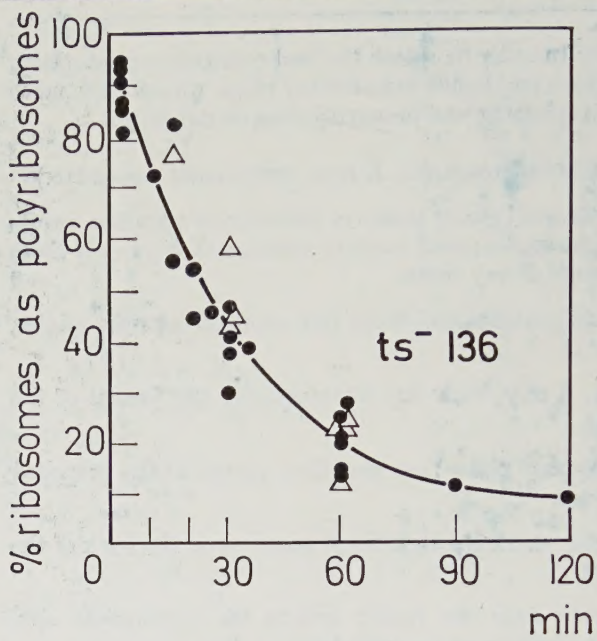
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyzß  
1234567890  
(!:"'+=,x?%)

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyzß  
1234567890  
(!:"'+=,x?%)

---

Some more examples see overleaf





Examples showing the effect of reduction  $\times \frac{1}{2}$